

LITERATURE FOR NEW ENGLAND BOTANISTS

HEINRICH, BERND. 1979. *Bumblebee Economics*. viii + 245 pp. Harvard University Press, Cambridge, MA.

Lest the title mislead you, this book is not a treatise on beekeeping as business. Rather, the author reports on his extensive research experiments exploring biological energy costs and payoffs with bees as a model. He provides a fascinating and lucid account of how "bumblebees and their kin do what they do and what it means to each of them." Heinrich shows how bee physiology is related to energy balance, and how that in turn is related to pollination, and to the reproduction of plants. Of particular interest to New Englanders is the fact that many of his observations were made in Maine bogs and meadows, and interesting data for the interaction of bees with the native plants are presented. Heinrich hopes that the book will aid the reader in understanding "economic laws that are fundamental to success in living and that operate at all levels of biological organization from the molecular to the ecological."

CHAPMAN, RACHEL ROSS & GARRETT E. CROW. 1981. Raunkiaer's life form classification in relation to fire. *Bartonia* **48**: 19-33.

CHAPMAN, RACHEL ROSS & GARRETT E. CROW. 1981. Application of Raunkiaer's life form system to plant species survival after fire. *Bull. Torrey Bot. Club* **108** (4): 472-478.

Prescribed burning as a means of forest management control is presently receiving much attention. The authors evaluate the use of classifying the vegetation according to Raunkiaer's life forms system as a tool for predicting the effects of a prescribed burn on a given forest-type plant community. They found that Raunkiaer's classification will give a "first estimate of species survival after a prescribed fire." However other "modes of regeneration and recovery after fire" play an important role, and vary from species to species.

The longer *Bartonia* article gives more details of the experiments leading to their conclusions.

MARY M. WALKER
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